IN THE CLAIMS:

Applicants note that all claims currently pending in the application are shown below in clean form for clarity. No claims are amended herein, the claims being presented in the form last amended by Amendment mailed November 28, 2000 and filed December 1, 2000.

25. (Previously four times amended) A pre-anneal intermediate structure in the formation of an isolation structure for a semiconductor device, comprising:

a semiconductor substrate free of field oxide structures and having a first surface and a second surface, said first surface opposing said second surface;

at least one p-well and at least one n-well on said substrate first surface;

at least one p-type area within said at least one n-well;

at least one n-type area within said at least one p-well; and

a substantially dopant-free, uninterrupted diffusion barrier layer extending over said first surface and said second surface of said semiconductor substrate.

26. (Previously amended) The structure of claim 25 further comprising a layer of oxide between said substrate first surface and said substantially dopant-free, uninterrupted diffusion barrier layer.

31. (Previously amended) The structure of claim 25, wherein said substantially dopant-free, uninterrupted diffusion barrier layer is silicon nitride.

32. (Previously amended) The structure of claim 25, wherein said substantially dopant-free, uninterrupted diffusion barrier layer is silicon oxynitride.

33. (Previously twice amended) A pre-anneal intermediate structure in the formation of an isolation structure for a semiconductor device, comprising:

a semiconductor substrate free of field oxide structures and having a first surface and a second surface, said first surface opposing said second surface;

at least one p-well and at least one n-well on said substrate first surface;

at least one doped area within at least one of said at least one n-well and said at least one p-well; and

a substantially dopant-free, uninterrupted diffusion barrier layer extending over said first surface and said second surface of said semiconductor substrate.

34. The structure of claim 33 further comprising a layer of oxide between said substrate first surface and said substantially dopant-free, uninterrupted diffusion barrier layer.

37. The structure of claim 33, wherein said substantially dopant-free, uninterrupted diffusion barrier layer comprises one of the group consisting of silicon nitride and silicon oxynitride.

38. The structure of claim 33, wherein said at least one doped area comprises an impurity selected from the group consisting of an n-type impurity and a p-type impurity.

39. (Previously twice amended) A pre-anneal intermediate structure in the formation of an isolation structure for a semiconductor device, comprising:

a semiconductor substrate free of field oxide structures and having a first surface and a second surface, said first surface opposing said second surface;

at least one first doped area on said substrate first surface;

at least one second, differently doped area within said at least one first doped area; and

a substantially dopant-free, uninterrupted diffusion barrier layer extending over said first surface and said second surface of said semiconductor substrate.

40. The structure of claim 39 further comprising a layer of oxide between said substrate first surface and said substantially dopant-free, uninterrupted diffusion barrier layer.

43. The structure of claim 39, wherein said substantially dopant-free, uninterrupted diffusion barrier layer comprises one of the group consisting of silicon nitride and silicon oxynitride.

44. The structure of claim 39, wherein said at least one first doped area comprises a p-type impurity and said at least one second, differently doped area comprises an n-type impurity.

45. The structure of claim 39, wherein said at least one first doped area comprises an n-type impurity and said at least one second, differently doped area comprises a p-type impurity.

46. A pre-anneal intermediate structure useful in the formation of electrical device isolation structures, comprising:

a semiconductor substrate that is free of field oxide structures and includes a first surface and a second surface, said first surface opposing said second surface;

at least one p-well and at least one n-well defined on said first surface of said substrate;

at least one p-type area defined within said at least one n-well;

at least one n-type area defined within said at least one p-well; and

a substantially dopant-free, uninterrupted diffusion barrier layer extending over said first surface and said second surface, said substantially dopant-free, uninterrupted diffusion barrier layer encapsulating said semiconductor substrate.

47. The pre-anneal intermediate structure of claim 46 further comprising a layer of oxide between said first surface and said substantially dopant-free, uninterrupted diffusion barrier layer.

48. The pre-anneal intermediate structure of claim 46, wherein said substantially dopant-free, uninterrupted diffusion barrier layer is silicon nitride.

49. The pre-anneal intermediate structure of claim 46, wherein said substantially dopant-free, uninterrupted diffusion barrier layer is silicon oxynitride.